

Application No.: 10/826,893

Case No.: 56847US007

REMARKS

With this Amendment, claims 18, 20, 21 and 32 have been canceled, claims 17, 19, 22-31 and 33-36 have been amended, and new claims 37-42 have been added. Support for these amendments can be found, for example, in paragraphs 0036, 0051 and 0052 of published application US 2004/0195817 A1. No new matter is involved.

Rejections under 35 U.S.C. § 112

In the Office Action dated November 21, 2005, claim 26 was rejected under 35 U.S.C. § 112, ¶ 2 as being indefinite. In particular, the Office Action states "[r]ecitation 'an angle of greater than or less than 180 degrees' in claim 26 is unclear." This limitation has been deleted from claim 26. Accordingly, it is submitted that claim 26 now complies with § 112, ¶ 2.

Rejections under 35 U.S.C. § 102

Further in the Office Action, claims 17, 21-28, 30-31 and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,210,102 to Joslin.

The Joslin patent discloses a male pipe end 10, a female pipe end 12 and an annular groove 16 formed in the male pipe end. A liquid sealant, not an adhesive, is coated on the outside of the male pipe end 10 or on the inside of the female pipe end 12, see column 2, lines 43-49. "As a first step in connecting the two pipe ends, they are telescoped together in the manner shown in FIGURE 2," see column 2, lines 28-30. The Joslin pipe joint is produced by forming a bell on the female pipe end, rolling a groove in the male pipe end, and forcibly telescoping the two ends together. A joint so formed is "self-locking," because the wall of the female end in the region of the groove is forced radially outwardly by the forced insertion of the male pipe end radially expanding the bell. See column 3, lines 27-43. Joslin teaches that the sealant "serves the dual role of acting as a lubricant at the time the joint is formed, and

Application No.: 10/826,893

Case No.: 56847US007

subsequently hardening to fill in minute spaces which might develop between the telescoping ends," see column 2, lines 45-49. Joslin does not teach that the sealant performs an adhesive function. The Joslin patent discloses that the illustrated pipe is intended for uses like "underground sprinkler systems for golf courses," see col. 1, line 71 through col. 2, line 2.

The Office Action states on page 3:

Joslin discloses a "hydroformable" article \*\*\* wherein said bonded joint is able to withstand a hydroforming process substantially without leakage and maintain sufficient strength, fatigue resistance and durability to be utilized as a structural element after said article is formed into its final shape \*\*\*.

Nowhere in the '102 patent does Joslin disclose, teach or suggest that his pipe joints are bonded together with an adhesive. Joslin only teaches the use of a sealant. In addition, nothing in the '102 patent indicates that the sealed Joslin joint is capable of withstanding a hydroforming process substantially without leakage.

In general, a hydroforming process forms a tubular assembly into a desired final shape by placing the tubular assembly into a die of the desired final shape and introducing a pressurized fluid into the interior of the tubular assembly. The pressurized fluid shapes the tubular assembly to fit the die so as to form the final structure. It is important to the hydroforming operation that the connections between tube parts be able to withstand the extreme stresses applied during the hydroforming process, and yet be able to retain their structural strength in the final, formed shape. This is especially true in automotive applications, where the hydroformed part is typically used as a structural frame member. (see pg. 2, lines 18-27 of the present application).

Even if Joslin's joined pipes were inherently hydroformable, the person of ordinary skill in the art of hydroforming frame structures would find no motivation from the Joslin patent to even try using Joslin's joined pipe in a frame to be hydroformed. Joslin discloses that the joint formed according to his invention is useful in applications like an underground sprinkler system, see column 2, line 1. The pipe joints formed in underground sprinkler systems are not expected to withstand high stresses like those generated in a hydroforming operation. The pipes used in

Application No.: 10/826,893

Case No.: 56847US007

underground sprinkler systems are typically joined together in a desired pattern and simply buried underground contemporaneous with the pipes being joined together. Once the sprinkler system is buried underground, the pipes and pipe joints typically remain in their original state and are not normally subjected to any kind of deformation, let alone the kind of deformation resulting from a hydroforming operation.

It is noted that Joslin discloses subjecting aluminum and steel pipe joints to hydrostatic testing. Hydrostatically testing the seal integrity of a joint, however, is not the same as subjecting the joint to a hydroforming operation. Joslin does not disclose, teach or suggest that such testing is to determine whether his joint can withstand significant deformation of the joined pipes, such as would occur in a hydroforming operation. The purpose of such hydrostatic testing, as expressed by Joslin, is to "demonstrate the effectiveness of the joint [to form a pressure tight seal]" (see col. 3, lines 60-61 and lines 44-45).

Claim 1 has been amended to recite a hydroformable frame. Claim 25 has been amended to recite a hydroformed frame. Because Joslin provides no disclosure, teaching or suggestion that his pipe joint would be suitable for use in a frame to be hydroformed (i.e., a hydroformable frame), the person of ordinary skill in the art would find no motivation from the '102 patent to use the Joslin pipe joint in such a frame. Without such motivation, the '102 Joslin patent cannot provide a basis for rejecting the present claims. Accordingly, it is submitted that the present claimed invention is patentable over the '102 Joslin patent, either alone or in combination with any other reference of record in this case.

#### Rejections under 35 U.S.C. § 103

Also in the Office Action, claims 17-31, 35, 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of U.S. Patent No. 5,794,398 to Kaehler et al. and U.S. Patent No. 3,210,102 to Joslin.

Application No.: 10/826,893

Case No.: 56847US007

"It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art", *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447, 230 USPQ 416, 419 (Fed. Cir. 1986) (quoting *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965)). Also, when parts in references are rearranged, the prior art "must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984), see MPEP §2144.04(VI)(C). It is submitted that these well-established standards have not been met in this examination.

Kaehler et al. discloses a frame structure that "consists of node/rod parts 12 and rod parts 18." See col. 4, line 15. Each node/rod part (12) includes a plurality of laterally extending projections (30) that enclose the node/rod part (12). Kaehler et al. do not disclose, teach or suggest that their frame structure is hydroformable. In fact, Kaehler et al. teaches away from their frame being hydroformable. Kaehler et al. state: "Because in accordance with the invention hollow elements which are closed-off to a large extent are used for producing the framework, it is possible to allow the simplest connection of further framework elements in the areas of the nodes of the framework." (col. 3, lines 11-15, Emphasis Added). Because they are enclosed, the projections (30) would prevent the passage of a hydroforming fluid between the node-rod parts (12) and the rod parts (18), thereby preventing the Kaehler et al. frame structure from being suitable for hydroforming.

In addition, use of the Joslin pipe joints in the Kaehler et al. frame structure, as proposed in the Office Action, will result in the removal of the closed-off projections (30). As noted above, however, the use of "closed-off" projections (30) is an important feature of the Kaehler et al. invention. See col. 3, lines 11-15. Therefore, the use of the Joslin pipe joint to replace the projections (30) would destroy an important feature of the Kaehler et al. invention. Accordingly, Kaehler et al. would provide no motivation to the person of ordinary skill in the art to make such

Application No.: 10/826,893

Case No.: 56847US007

a change. In addition, as noted above, Joslin provides no disclosure, teaching or suggestion that his pipe joint would be suitable for use in a frame to be hydroformed.

Even if Kaehler et al. could be interpreted as teaching, or at least suggesting, a frame structure that includes node/rod parts (12) with open (i.e., not closed-off) projections (30), the combination of such a teaching with the Joslin disclosure, as suggested in the Office Action, would still fail to result in a hydroformable or hydroformed frame structure. As noted above, Joslin uses a liquid sealant to seal his pipe joint. Joslin does not teach that the sealant is suitable for performing any adhesive function, let alone that it is strong enough to survive a hydroforming operation performed on a tubular frame. In addition, the Joslin pipe joint is intended for applications, such as underground sprinkler systems, where no such deformation of the pipe joint is intended or likely to occur. Furthermore, Kaehler et al. provides no disclosure, teaching or suggestion indicating that their frame structure is suitable for being, or intended to be, hydroformed.

Therefore, even when the teachings of Joslin and Kaehler et al. are broadly interpreted, the person of ordinary skill in the art would still find no motivation from either Joslin or Kaehler et al. to combine their respective teachings, as proposed in the Office Action, to result in the present claimed invention. The only suggestion for such a combination comes from the Applicants' own specification, which cannot be used against them. Without such motivation, these two references cannot be properly combined to provide a basis for rejecting the present claims. Accordingly, it is submitted that the above §103 rejection of claims 17-31, 35, 36 was improper, the rejection should be withdrawn, and the claims be allowed.

With this paper, new claims 37-42 have been added. With regard to claims 37, 38, 39 and 40, Joslin and Kaehler et al. fail to disclose, teach or suggest inlet and outlet holes formed in a female tube portion. With regard to claims 41 and 42, Joslin and Kaehler et al. fail to disclose, teach or suggest a frame made from steel that can be deformed by hydroforming so as to be reshaped into a final form.

Application No.: 10/826,893

Case No.: 56847US007

Applicants note that the Office Action indicates that the Election of Species requirement has been made final. Claims 33-34, which have been withdrawn from further consideration by the Examiner, depend from claim 25. As noted above, claim 25 is patentable over the prior art. For those same reasons, it is submitted that claims 33-34 define patentable invention. Hence, claims 33-34 have not been canceled. Accordingly, indication that claims 33-34 are allowable along with claim 25 is respectfully requested.

Conclusion

In view of the above remarks and claim amendments, Applicants submit that claims 17, 19, 22-31 and 33-42 define patentably over the prior art. Early notification of allowable subject matter is respectfully requested.

Respectfully submitted,

Date

2/09/06

By:

Harold C. Knecht IIIHarold C. Knecht III, Reg. No.: 35,576  
Telephone No.: 651-575-1056

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833